



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,406	09/28/2001	Miroslav Trajkovic	US010477 (702053)	4383
24737	7590	09/14/2004	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			BALI, VIKKRAM	
		ART UNIT	PAPER NUMBER	
		2623		
DATE MAILED: 09/14/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/966,406	TRAJKOVIC ET AL.
	Examiner	Art Unit
	Vikkram Bali	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 January 2003 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2 &amp; 5</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

Specification reference to many related application but the application numbers are missing. Specification refers to figure 1, with description, which does not match with the drawings.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over 3D model enhanced face recognition, by Zhao et al (herein after Zhao).

With respect to claim 1, Zhao discloses facial classification wherein detecting a partial view of a subject, wrapping the partial view on to a frontal image and classifying the image, (see page 50, paragraph 2) as claimed. He fails to explicitly disclose the training a classifier device, as claimed. But, as stated in the section 1.1, page 50 the modeling is done in order to classify the facial images using a LDA, and LDA is the classification algorithm that uses training in order to classify the images. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to simply utilize LDA algorithm in order to train a device to classify the facial images as taught by the Zhao.

With respect to claim 2, Zhao further discloses an algorithm for face detection, (see section 1.1) as claimed.

With respect to claim 3, he further discloses finding a head pose, rotating the GHM, translating a scaling and recreating the image of the frontal view of the face, (see section 3 on page 51) as claimed.

With respect to claim 4, he further discloses an algorithm to find a head pose from a minimal number of points, (see col. 2 first two lines on page 51) as claimed.

With respect to claim 5, it is a choice design choice to use more or less points in order to come up with the head pose, because more the points to match much better yield to get, as number of points will dictate the accuracy of the head pose. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to use the design choice to come up a number of points to match in order to get an accurate head pose.

With respect to claims 6-8, he further discloses modifying the GHM to get other detectable features such as mouth, ear, nose, etc., and utilizing the morphing techniques, (see section 3 on page 51) as claimed.

With respect to claim 9, it is well known in the art of classification to use the radial basis functions (RBF) in order to classify the images. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to use well known feature of RBF in order to classify the images, as it is conventionally use in the art.

Claims 10 and 11 are rejected for the same reasons as set forth in the rejection of claim 1, because claims 10 and 11 are the corresponding apparatus and computer software claims of claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 703.305.4510. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703.308.6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vikkram Bali  
Primary Examiner  
Art Unit 2623



vb  
September 13, 2004